

# Assessment of Prevalence of Ectoparasite (Ticks) on Goats

Sushil Kumar Pandey<sup>1</sup>, Saaduz Zafar Ali<sup>2</sup>

<sup>1,2</sup>Department of Zoology, S.N.C.(P.G. College) Azamgarh, India

**Abstract:** Both Meat and Milk are important part of food for humans. Goats have a good contribution in the both the sector of meat & milk. Goats play an important role in the life of poor farmers. In our present study we trying to know the prevalence of Ticks on the goats of some districts of Eastern Uttar Pradesh. In our work we take all type of Goats. Goats affect directly the agricultural production, health condition and economic condition of the poor formers. Total no. of 390 goats were examined in which 243 were infected.

**Keywords:** Ticks Goats & Prevalence %

## 1. Introduction

Rearing of goats is an important economic sector for the poor formers of rural areas of India. They are an important source of additional income for the poor formers. Ticks are one of the important blood feeding obligate ectoparasites of vertebrates, specially mammals and Birds (Purman and Loomis 1984). Goats play an important role for small farm holders, they can maintain a reliable economic and ecological niche in Asian agriculture (Devendra 1996). Immune in the infected host animals (Gwakisa et al. 2001). Prevalence of ixodid ticks in Tamilnadu was reported by Kumar et al. (2002). A report on human infesting ixodid ticks of Kerala was made by Prakasan and Ramani (2003). Studies made by Latha et al. (2004) on the seasonal activity of ticks disclosed moderate tick burdens in small ruminants and Haemaphysalis as the most common tick genus in Tamil Nadu. Ticks bite on the host may lead to inflammation and irritation on the skin at the sites of their attachment causing cutaneous abrasion and leading to damage hide resulting in reduction of the quality and value of leather up to 20-30% (Gharbi et al., 2006). Ectoparasites especially tick infection cause, hyperproteinemia, (Taylor et al 2007). Incidence and prevalence of ixodid ticks on goats in South India were studied by Prakasan and Ramani (2007), Sundararajan et al. (2014) and Vathsala et al. (2008). Small ruminants are reared mostly by poor and marginalized formers an important livestock species in India and other developing countries (World food and Agriculture Organization of the United Nation, 2012). In different parts of South Asia the prevalence study of ectoparasitism was observed among goats (Sarkar et al. 2010 and Iqbal et al. 2014). In India the prevalences and factors associated with ectoparasitism were evaluated in goats of two different agro-climatic regions (Ajith et al. 2017).

## 2. Research Methods

We chose the (Jaunpur & PrayagRaj) districts of Eastern Uttar Pradesh. Time duration is between the 1st January to 31st December (2018). Two groups of animals are taken first below the 3 years(Y) and other above the 3 years(A).

Visual inspection are done of their external body parts like head, neck, abdomen, legs, tail, vagina, back, etc. The study animals were screened for ectoparasites using the techniques (Hand picking and brushing) employed by Hall (2016). All stages of ticks were examined. We collect them in 70% alcohol for identification. Identification of morphological characteristics of collected ticks was carried out by standard keys (Walker et al. 2003 & Soulsby 2006).

$$\text{Prevalence \%} = \frac{\text{No. of goats infected}}{\text{Total no. of goat surveyed}} \times 100$$

## 3. Results

Data are given in the following Tables.

**Table 1:** Monthly variation in the Prevalence %

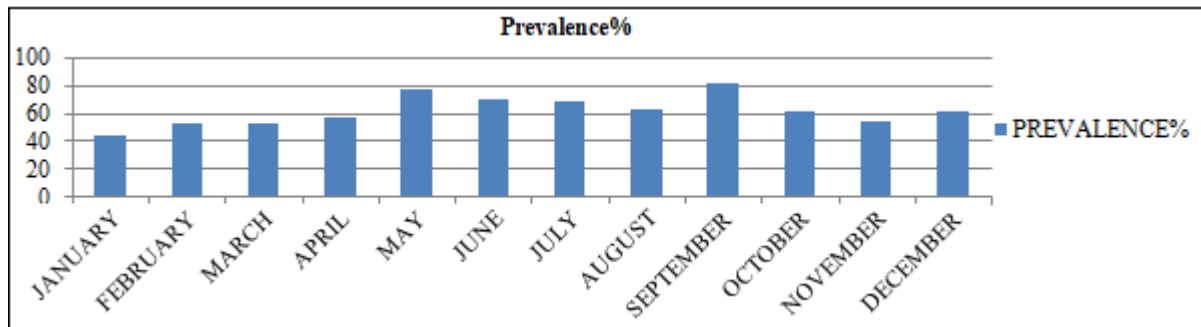
Months	No. of Goats Examined	No. of Goats Infected	Prevalence %
Jan	32	14	43.75
Feb	28	15	53.57
Mar	36	19	52.77
Apr	35	20	57.14
May	40	31	77.5
Jun	37	26	70.27
Jul	32	22	68.75
Aug	30	19	63.33
Sep	26	21	80.76
Oct	29	18	62.06
Nov	31	17	54.83
Dec	34	21	61.76

**Table 2:** Seasonal variation in the Prevalence %

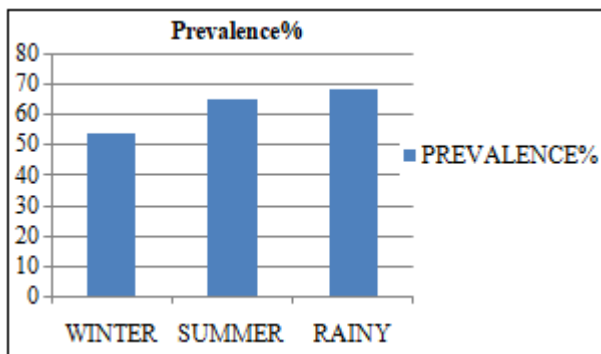
Seasons	No. of Goats Examined	No. of Goats Infected	Prevalence %
Winter	125	67	53.6
Summer	148	96	64.86
Rainy	117	80	68.37

**Table 3:** Prevalence % in two age groups

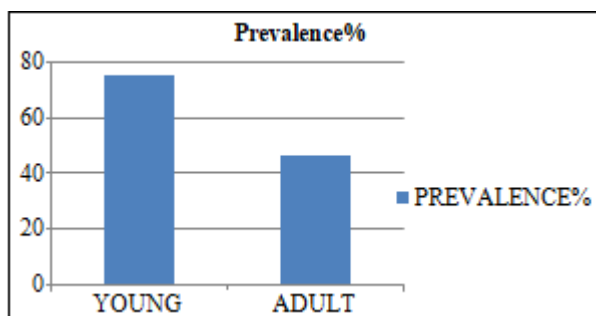
Group	No. of Goats Examined	No. of Goats Infected	Prevalence %
Young	220	165	75
Adult	170	78	45.88



Graph (Table No.1)



Graph (Table No.2)



Graph (Table No.3)

Total 390 Goats were examined in which 243 were infected. September month has maximum prevalence and January month has minimum. Rainy season has maximum prevalence and Winter has minimum prevalence. 75% prevalence shown by Young incomparison to 45.88 Adult.

#### 4. Conclusion

Ticks are important ectoparasites of Goats. Ticks work as a vector of many disease causing agents. Disease affect the growth and production of Goats. So it is important to save the Goats from ticks by some preventing measures. We need to aware the farmers about the infection and their prevention.

#### References

- [1] Furman DP and Loomis EC. ,(1984) : "Bulletin of the California Insect survey" University of the California press, California 25:1-239.
- [2] Devendra C.,( 1996) : Opportunities for increasing the economic contribution of small ruminants in Asia. In LF Le Jambre and MR Knox (eds) "Sustainable parasites

control in small Ruminants". Bogor, Indonesia, ACIAR, Proceedings. 74:27-32.

- [3] Gwakisa P, Yoshiharak Long IT, Gotoh H, Amano F and Eiichi M. ,( 2001) : Salivary gland extract of *Rhipicephalus appendiculatus* ticks inhabits in vitro transcription and secretion of cytokines and production of nitric oxide by LPS stimulated JA-4 cells. Veterinary parasitology. 99:53-61.
- [4] Kumar K and N. Balakrishnan. ,( 2002) : Prevalence of ixodid ticks in nilgiri district of Tamil Nadu State (India) . J. commun Dis. 34:124-127.
- [5] Walker AR, Bouattour A, Camicas II, Estrada Pena A, Horak IG, Latif AA, Pegram RG, and Preston PM., (2003): Ticks of domestic animals in Africa ;a guide to identification of species, Biosci Rep.PP 1-221.
- [6] Prakasan K. and N. Ramani. ,( 2003) : Human infesting ixodid ticks of kerala. J. parasitic Dis. 27:108-112.
- [7] Latha BR, Aiyasamiss, Pattabiraman G, Sivaraman T, Rajavelu G.,(2004): Seasonal activity of ticks on small ruminants in Tamil Nadu state India Tropical Animal Health and production 2004:36:121-133.
- [8] Soulsby EJJ (2006) Helminth orthopods and protozoa of domesticated animals 7<sup>th</sup> edn. Bailliere Tindall and cassel Ltd. London, PP. 444-475. Hall, C.M 2006. A survey on ectoparasites on Domestic fowls and Gwunes fowls , in Gongonia, Navrongo , University for Development studies Novrango Ghana. P.P 65
- [9] Marchiondo AA, Holdsworth PA, Green P, Blagburn BL and Jacobs DE., ( 2006): World association for the Advancement of veterinary Parasutikigucak (W.A.A. V.P) guide lines for evaluating the efficacy the efficacy of parasiticides for the treatment, prevention and control of flea and tick infestation on dogs and cats. Veterinary parasitology 145:332-344.
- [10] Gharbi M, Sassi I, Dorchie P and Dorghouth P., ( 2006):Infection of calves with *Theileria annulata* I Tuasia; Economic analysis and evaluation of the Potential benefit of vaccination. Veterinary parasitology. 137:231-241.
- [11] Taylor MA, Coop RL and Wall RL,( 2007):Vet parasitol, 3rd edn. Blackwell oxford Pp: 586-593.
- [12] Prakasan K and Ramanai N. (2007): "Tick parasites of Domestic Animals of Verala, Southern India." Asian Journal of Animal and Veterinary Advances.2:74-80.
- [13] Vathsala M. Mohan P, Sacikuman and Ramesh S.,( 2008): "Survey of Ticks Species distribution in sheep and Goats in Tamil Nadu, India". Small Ruminant Research. 74:238-242.
- [14] Sarkar M, Rahman SA, Sarker BK, Anisuzzaman A, Begum N and Mondal MMH. (2010): Epidemiology

- and Mymen Sing district of Bangladesh, Bangladesh Journal of Veterinary Medicine. 8:41-50.
- [15] World food and Agriculture Organization of the United Nations,( 2012): FAO Statistical year book. World food and Agriculture Organization of the United Nations, Rome.
- [16] Iqbal A, Siddique F, M ahmood MS, Shamim A, Zafar T, Rasheed I, Saleeem I and Ahmad W., ( 2014):Prevalence and impact of ectoparasitic fauna infesting goats (*Capra hirucs*) of district toba tek singh, Punjab Pakistan. Global veterinarian. 12:158-164.
- [17] Sundararajan C. Latha BR and Serma Saravana Pandian.,( 2014): Prevalence of tick infestation in goats under different system of management Interactional Journal of Agriculture Science and Veterinary Medicine. 2:4 4-9.
- [18] Ajith Y, Dimri U, Gopalkrishnan A, and Gopinath Devi.,( 2017): A study on Prevalence and factors associated with ectoparasutisna in goats of two agroclimatic regions in India. Journal of Parasitic diseases. DOI 10.1007/ S12639-017-0881-Y.